CHAPTER 6

BUILDING GENDER RESEARCH CAPACITY FOR NON-SPECIALISTS: LESSONS AND BEST PRACTICES FROM GENDER SHORT COURSES FOR AGRICULTURAL RESEARCHERS IN SUB-SAHARAN AFRICA

Margaret Najjingo Mangheni, Hale Ann Tufan, Brenda Boonabana, Peace Musiimenta, Richard Miiro and Jemimah Njuki

ABSTRACT

Investments in gender training for agricultural researchers have not attained expected outcomes, bringing into question the efficacy of training approaches used. New approaches for transformative gender training need to draw on lessons learned from previous courses. This chapter analyses short gender training courses identified using a scoping methodology. Selected courses offered between 2005 and 2015 for scientists in Eastern Africa were critiqued against a theoretical framework for transformative gender training. Also shared is a training model (Gender Responsive Researchers Equipped for Agricultural Transformation course) that addresses gaps in previous courses.

Gender and Practice: Knowledge, Policy, Organizations
Advances in Gender Research, Volume 28, 99–118

ISSN: 1529-2126/doi:10.1108/S1529-212620190000028006

The chapter identifies critical lessons for facilitating transformative gender training for non-gender research practitioners which include the need for interdisciplinary grounding in the disciplines of gender and agriculture, having a phased course delivery and the value of continuous technical support during and after training. Gender training models should also allow for the deepening of gender awareness and consciousness by providing safe spaces for personal reflections on the root causes of gender inequalities and for the questioning of the internalized norms and biases.

Keywords: Gender Responsive Researchers Equipped for Agricultural Transformation (GREAT) course; Gender mainstreaming; Gender training; Scoping methodology; sub-Saharan Africa

INTRODUCTION

Gender shapes values, norms, social beliefs and practices that define relations between men and women, girls and boys in many societies. It is institutionalized and permeates all facets of life within society at formal and informal levels, including households, groups, communities and organizations (Lorber, 2005).

Sub-Saharan African (SSA) agriculture is gendered, with specific roles, opportunities and rights over productive resources and proceeds for men, women, girls and boys (Meinzen-Dick et al., 2011). Women have fewer entitlements in terms of access to and control over productive resources such as land and income, education, skills, voice, decision-making and freedom of mobility. This in turn perpetuates women's dependence on men as husbands, fathers and brothers (Manyire & Apekey, 2013).

Closing the gender gap in agriculture requires layers of transformation in agricultural research from individual researchers changing the way they design and conduct research to changes in how gender is defined and addressed in a research ecosystem as a whole. The centrality of gender responsiveness for successful interventions across all development disciplines, including agriculture has been widely accepted, implying that practitioners require some level of basic capacities in gender research skills applicable in their contexts. Spanning nearly five decades, the history of gender integration in agricultural research has been re-imagined several times following dominant paradigms in agricultural development and gender theory (Okali, 2012). The resulting set of reports, resources, tools and practical tips on gender integration in agricultural research are available to researchers, yet gender remains an afterthought retrofitted to established research projects in isolated areas; the "add women and stir" approaches have prevailed (Subrahmanian, 2007).

Capacity building in gender responsive research is a critical entry point for gender integration in agricultural development (Njuki, 2016). In the developing world, gender training has almost reached a status of a panacea for gender equality (Ahikire, 2007), yet, the commonly offered generalist gender courses have limited effectiveness for an audience of mixed discipline agricultural researchers.

One of the shortcomings has been the complexity of conveying theoretical concepts about power and societal change to an audience of practitioners, especially those coming from the positivist biophysical sciences (Mukhopadhyay & Wong, 2007). Usually, the gender training programs by and large focus on skill development, while mostly avoiding challenging behavior and attitudes (Mukhopadhyay & Wong, 2007). Gender training has therefore increasingly become a conduit to delivering "neutral" definitions, rather than an opportunity for self-reflection and engagement (Ahikire, 2007). This lack of questioning of participants' positionality and biases leads to training programs focused on methods and skills, without complementing these with a deeper appreciation of root causes of the status quo and attitude change.

This brings into question the adequacy of the gender trainings being offered to agricultural researchers. Do these courses meet the minimum standards in training design, content and delivery methods? Do they foster desired attitudinal changes, skills development, and on job application? Lessons drawn from a critical reflection and analysis of experiences are important in formulating effective approaches for the building capacity of non-gender specialist practitioners. In this chapter, we examine case studies of existing gender training courses through this critical lens and offer reflection on a new training model we developed to address shortcomings identified in existing courses.

We argue that a transformative learning process should expose participants to activities that promote an understanding and appreciation of how gender inequalities manifest at personal, workplace and community levels and how this in turn impacts agricultural disciplines. Contextualizing gender within agricultural research requires gender responsive mixed methods research designs (quantitative and qualitative) suited for complex problems that require interdisciplinary perspectives. What is really needed are gender training programs designed specifically for agricultural researchers that build their skills for interdisciplinary research, that challenge their assumptions about gender, and that enable them to function in multidisciplinary teams Comprised of agricultural and social scientists.

Given the social nature of gender, group training methods are particularly suited for attainment of gender transformative learning outcomes. These involve connecting the self with others through spaces of critical reflection and experiential learning, leading to shifts in one's own mental models, attitudes and behaviors. Through such processes, individuals attain personal and collective awareness, changes in attitudes, knowledge and skills. They are also able to reconfigure their images of masculinity and femininity (Manyire & Apekey, 2013). Ultimately, effective gender training needs to go beyond raising awareness of the implications of gender inequality on development, acquiring knowledge on gender concepts and developing skill in gender analysis. Training programs should also emphasize developing consciousness of gender inequalities and how they are socially constructed (Escobar & Puskur, 2014) so that agricultural researchers appreciate the root causes of gender inequality and become active agents of change toward just and equitable societies. This chapter starts by presenting the contextual background to gender in sub-Saharan African (SSA) agriculture, followed by a description of the approach we took in the methodology. The next

sections focus on the gender training case studies, a synthesis of their key design elements, and a discussion of our experiences and early lessons while implementing a five-year project running a gender course for agricultural scientists in SSA – the Gender Responsive Researchers Equipped for Agricultural Transformation (GREAT) course implemented by Makerere University and Cornell University. We conclude with lessons drawn from the case studies.

UNDERSTANDING THE CONTEXT: GENDER IN SUB-SAHARAN AFRICAN AGRICULTURE

Gender relations in SSA are multistranded – they allocate labor between different tasks, activities and domains; determine the distribution of resources and assign authority, agency and decision-making power (Kabeer, 2005). Gender also confers entitlements, rights and responsibilities and frames men and women's identities (Lorber, 2005; Manyire & Apekey, 2013). In SSA, these are often grounded in patriarchy, a social system where men wield more power than women in terms of decision-making, social privilege and control of property among other aspects of social life. The socialization process generates and reinforces gender roles and expectations that lead to gender inequalities across various development domains (Lindsay, 2005; Manyire & Apekey, 2013).

Gender inequalities are institutionalized and reproduced at various levels, both informal (household, community, ethnic, religious) and formal (organizations within the public and private sectors) (Lorber, 2005). The institutionalization of gender inequalities ultimately gives rise to a structural status quo within society where masculine superiority and feminine inferiority are consciously and subconsciously internalized and perceived as "natural" or "a given" (Lorber, 2005). Unlike sex, gender roles and relations are culturally specific, dynamic and open to change. Therefore, while gender forms a basis for inequalities between women and men, girls and boys, it can be contested to promote transformative change (Kabeer, 2005; Subrahmanian, 2007).

There is considerable evidence to show that when development programs are undertaken without adopting a gender perspective, there is a risk of overlooking their impact on men and women (FAO, 2016; Gates, 2014). Agricultural research programs are generally implemented in a manner that has excluded women's active participation and benefits (Meinzen-Dick et al., 2011). FAO (2016) estimates that if women had access to the same productive resources as men, they could increase yields on their farms by 20–30% which could in turn reduce the number of hungry people in the world by 12–17%. Another study estimates that by closing the "gender gap," the potential gross gains to GDP would be $100 million in Malawi (or 1.85% of GDP), $105 million in Tanzania (0.46% of GDP), and $67 million in Uganda (0.42% of GDP) (UN Women, UNDP, UNEP and the World Bank, 2015).While these figures are not new to development projects and programs, response to them and change has been slow in coming: women continue to face a myriad of gender-based constraints such as unequal marital relations, low education, discriminatory laws pertaining to land access and

ownership, as well as limited mobility, and the triple burden of production, reproduction and community roles (Rubin, 2016). These further constrain them from engaging meaningfully in agricultural opportunities. While such constraints are seemingly invisible, they inhibit agricultural productivity and reduce food security (FAO, 2016; UN Women, UNDP, 2016; UNDP, UNEP and World Bank, 2015).

It is therefore important for agricultural researchers to recognize how these constraints impact their research outcomes, as well as equitable participation and benefits for men and women. According to the UN Women Training Centre (2016a), one way of promoting gender responsive research outcomes is through awareness-raising and consciousness-building that enables participants to identify the key issues concerning gender (in)equality and women's empowerment as well as addressing certain resistances against gender equality.

Global and continental strategic direction has set goals and targets for gender equality and women's empowerment. The Sustainable Development Goal (SDG) #5 focuses on achieving gender equality and empowering all women and girls. Indicator 5A(1) on women's ownership of agricultural land sets the target for undertaking reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance, and natural resources. However, the Comprehensive African Agricultural Development Program (CAADP), a flagship program of the African Union launched in 2003 to provide a framework for agricultural transformation and competitiveness for the African region, is largely gender blind by design and implementation.

We critiqued selected short gender training courses offered between 2005 and 2015 for scientists in Eastern Africa against a theoretical framework for transformative gender training. We also share a training model (GREAT course) that addresses gaps in previous courses. The chapter identifies critical lessons for facilitating transformative gender training for non-gender research practitioners.

METHODOLOGY

We reviewed 15 courses organized by four organizations including the McKnight Foundation, Association for Strengthening Agricultural Research in East and Central Africa (ASARECA), the Consultative Group for International Agricultural Research (CGIAR) and the Forum for Agricultural Research in Africa (FARA) (see Table 1). The gender training courses targeted agricultural researchers in SSA and were held in Ethiopia, Kenya, South Sudan, Sudan, Rwanda and Uganda. These are countries where agriculture, specifically, smallholder farming employs the bulk of the population, and gender inequalities in agriculture are outstanding (UN Women, 2015).

The review is based on reports of proceedings written by course rapporteurs and facilitators. We utilized the scoping methodology to select gender training courses conducted by national and regional agricultural research institutes/organizations in SSA for the last 10 years to distill lessons and best practices for

Table 1. Profile of the Courses Reviewed.

Organization	Courses Reviewed	Selected In-depth Case Study
McKnight Foundation	1. Collaborative Crop Research Program (CCRP) gender training for project teams in Kenya. 2. CCRP gender training for project teams in Uganda. 3. CCRP gender training for their project teams in Ethiopia.	CCRP gender training for project teams in Kenya (McKnight, No.1).
ASARECA	4. Participatory Research and Gender Analysis Training for ASARECA December 2004. 5. Building capacities in gender analysis and gender mainstreaming in the National Agricultural Research (NAR)s of ASARECA June 2006. 6. Building capacities in gender analysis and gender mainstreaming in the NARs of ASARECA July 2005. 7. Training workshop on gender mainstreaming in research for NARs implementing SIMLSA and ASARECA projects February 2011. 8. Training workshop on gender mainstreaming in agricultural research for development in Sudan April 2014. 9. Training workshop on gender mainstreaming in agricultural research for development in South Sudan October 2013.	Building capacities in gender analysis and gender mainstreaming in the NARs of ASARECA July 2005 (ASARECA, Nos. 4–6). *Rationale for selection:* Wider audience and broad topic.
CGIAR	10. Gender training workshop on integrating gender into IITA roots, tuber and banana program April 2013. 11. Gender integration and analytical tools in agricultural research training IFPRI and CIMMYT January 2013. 12. Gender integrated participatory varietal selection training in Ethiopia January 2015.	Gender training workshop on integrating gender into IITA roots, tuber and banana program April 2013 (CGIAR, No. 10).
FARA	13. Gender training workshop on enabling gender responsiveness in agricultural research for development in Africa FARA 2013. 14. Empowering stakeholders for gender mainstreaming June 2014. 15. Integrating gender into monitoring and evaluation of agricultural research and development programmes FARA July 2015.	Gender training workshop on enabling gender responsiveness in agricultural research for development in Africa FARA 2013 (FARA, No. 13).
Makerere-Cornell Universities	16. Gender-Responsive Researchers Equipped for Agricultural Transformation (GREAT) course.	Cohort 1: Root, Tubers and Banana Gender Responsive Breeding course, 2016/2017. Cohort 2: Cereal Grains Gender Responsive Breeding course, 2017/2018.

effective gender training for non-specialist practitioners. Arksey and O'Malley (2005) recommends scoping studies as "a useful way of mapping fields of study where it is difficult to visualize the range of material that might be available" (p. 6). According to Anderson, Allen, Peckham, and Goodwin (2008), scoping studies are concerned with contextualizing knowledge in terms of identifying the

current state of understanding; identifying the sorts of things known and not known; and then setting them within policy and practice contexts. The study was guided by the five-stage York Framework outlined by Arksey and O'Malley (2005) which involves identifying the research question and relevant studies; selecting the study; charting the data; and lastly, collating, summarizing and reporting the results. The collation and summaries were done using the Atlas Ti qualitative, version 7.18 software analysis.

In the first stage of the York framework (identification of research question), Arksey and O'Malley (2005) recommend a question that is wide enough to generate breadth of coverage. Such a question should lead to a broad range of research questions with a clearly articulated scope of inquiry (Levac, Colquhoun, & O'Brien, 2010). Putting these into consideration, the research team framed the question as "What literature is available on gender trainings in agriculture?" This question was considered wide enough to capture optimum number of materials on gender training.

Under stage two (identifying relevant studies), literature was sought using an electronic database, and contacting relevant organizations. Levac et al. (2010) recommends refining the research question to encompass some definition of the specific terms used in the research question as well as setting the parameters of the broader topic the research question addresses. To conform to this, key words derived from the research question were used to search literature. These were: "gender," "training," "agriculture," and "SSA." The order of these key terms was interchanged in order to widen the search, and the word "workshops" was added to capture training that could have been delivered through workshops. The search process was iterative, requiring researchers to engage with each stage in a reflexive way and where necessary repeat steps to ensure that the literature search was comprehensive. Google search engine was used because it provides links to a variety of databases which have both open and restricted access. Since access of literature was one of our parameters of interest, websites with information of relevance but with restricted access to materials were also documented. Documents and links generated with the key words were visited and downloaded and this led to more than 200 documents and 10 web pages with online courses. Literature was accessed during the period November–December 2015.

To select the documents, the criterion of relevance to the purpose of the study was considered. Our initial perusal of the documents indicated that the search strategy had picked up a large number of irrelevant studies. In order to manage the volume of literature for this review, the inclusion and exclusion principle was applied. Our inclusion principle encompassed documents that were training manuals, workshop reports, or online courses on gender in agriculture together with websites of organizations that offered the training. This gave rise to a total of 16 documents. The training reports selected were of gender courses conducted by ASARECA, FARA, DebreZeit Agricultural Research Centre in Ethiopia, International Livestock Research Institute (ILRI), National Agricultural Research Organisation (NARO) in Uganda, International Food Policy Research Institute (IFPRI) and International Institute for Tropical Agriculture (IITA). The final stage involved selection of courses targeting agricultural researchers offered

during the period 2005–2015 for in-depth analysis. Data tabulated from the document review was thematically analyzed guided by the study questions (Table 1).

Brief Description of the Courses Reviewed

Case 1. McKnight Foundation Collaborative Crop Research Program (CCRP)
The CCRP gender training for project teams in Kenya, Uganda and Ethiopia aimed at enabling participants to (i) appreciate how gender applies to their work, (ii) acquire skills and tools for basic gender analysis, and (iii) integrate gender interventions in research projects based on the gender analysis results. Each of the courses was conducted for a period of four days; November 30–December 3, 2015 (Kenya), November 25–28, 2015 (Uganda) and December 29, 2016 to January 1, 2017 (Ethiopia).

Content included gender concepts, gender awareness including why gender matters in agriculture, gender transformative approaches, gender in monitoring and evaluation, gender and markets and gender and value chain analysis. Topics on gender and agricultural research methods included formulating a gender research question, gender in technology development; why and how to integrate gender in the entire project cycle; and collection and analysis of sex-disaggregated data. In order to promote contextualization of gender within an ongoing project, participants identified gender issues in their projects and integrated gender into the project design. This was followed by post-training action plans.

Case 2. ASARECA: Building Capacity in Gender Analysis and Gender Mainstreaming in the NARS of ASARECA (2004–2006)
The ASARECA implemented a two-year project on Participatory Research and Gender Analysis during the period 2004–2006. The project aimed at building the capacity of national agricultural research organizations in East and Central African countries to mainstream gender analysis and participatory research. Through a phased process of three training workshops, the project sought to establish a network of innovators who would support and champion mainstreaming gender sensitive participatory approaches in agricultural research for development. The first course was conducted from November 11 to 20, 2004 (10 days); the second one from 4 to 15, 2005 (12 days); and the last one from June 10 to 17, 2006 (8 days). Each country fielded on average two participants coming from the same organization and save for a few exceptions, the same people attended all three trainings. The first workshop focused on defining gender and organizational development concepts, gender analysis frameworks, and developing an institution proposal for carrying out a gender assessment so as to reveal constraints and opportunities which would form the basis for mainstreaming strategies. The second course involved taking stock of progress in the gender mainstreaming process for various organizations and development of proposals, workplans and budgets for proposals based on the assessments. In addition, it covered gender analysis tools, organization change, communication and gender considerations in monitoring and evaluation. Each country was allocated a grant to apply gender skills and champion organizational transformation.

The third workshop aimed at sharing experiences from the various institutions, training of trainers in gender analysis and planning the way forward after the project. The workshop also covered gender and advocacy, gender mainstreaming frameworks and development of trainer modules on gender analysis and gender concepts.

Case 3. Gender 3 CGIAR: Training Workshop on Integrating Gender into IITA Roots, Tuber and Banana Program April 2013

The CGIAR program on Roots, Tubers, and Banana (RTB) conducted a four-day training workshop from 8 to 11, 2013. The purpose was to provide a platform for RTB projects and partners to reflect and take stock of experiences and share lessons in gender mainstreaming. The workshop also aimed at enhancing understanding of gender concepts, relevance of gender in agricultural research, policies and strategies, as well as developing measurable follow-up action plans. A field visit enabled participants to get hands-on practice in the use of gender research tools. Content covered included defining gender concepts, mainstreaming gender in projects, indicators and logical framework, gender responsive monitoring and evaluation, and gender analysis frameworks and tools.

Case 4. FARA: Enabling Gender Responsiveness in Agricultural Research for Development in Africa (FARA), July 12–13, 2013 (Accra, Ghana)

The FARA conducted a two-day course from July12 to 13, 2013 to sensitize FARA staff and partners on the importance of gender integration in agricultural research. Participants were drawn from academic institutions, national agricultural research systems, sub-regional organizations, government organizations, and local and international NGOs. The content focused on gender concepts, gender responsive monitoring and evaluation, gender analysis frameworks and tools, gender responsive project cycle, and gender action planning and budgeting.

Gender Trainings: A Critique of Selected Case Studies

This section provides a synthesis of the findings from the selected case studies guided by the following questions:

1. Which behavioral domain (gender awareness, knowledge, skills acquisition or skills transfer and application) did the training objectives of the course target? Did the indicated objectives have corresponding and coherent content? Were the delivery methods appropriate and relevant to the topics and objectives?
2. Whether and how the training courses provided an opportunity for participants to reflect and question their internalized gender identities and biases as well as the root causes of the prevailing inequalities in the community and work place.
3. Whether the gender content was contextualized to agricultural research disciplines.

The Training Objectives: From Awareness to Application Continuum

All the case studies raised awareness of the relevancy of gender in agricultural research and development. In terms of knowledge, the main focus was on the clarity of terms, specifically, the distinction between *sex* and *gender;* however, some key concepts that would enable appreciation of the root causes of gender inequality such as *women's empowerment*, *agency*, *gender equality,* and *gender transformation*, received less attention. Similarly, there was a limited focus on a critical reflection on gender norms and beliefs and how they influence the research process and outcomes.

The courses attempted to equip participants with knowledge and skills in gender analysis, mainly drawing on the Harvard and Moser gender analysis frameworks (March, Smyth, & Mukhopadhyay, 1999).The aim was to enable the understanding of gender issues in communities in order to inform agricultural interventions. However, the tendency of most trainings to focus on specific frameworks has the potential to mislead novice gender researchers to equate all gender analyses with already defined frameworks. This limits the researcher's deeper engagement with pertinent gender theories that would inform conceptualization and design of interdisciplinary gender responsive agricultural research. Ideally, gender analysis should be contextualized within diverse projects and agricultural disciplines. While the trainings were situated within ongoing projects that aimed at achieving gender equitable outcomes, the content covered in the frameworks tended to be abstract with limited links to the projects at hand painting a *generalist* picture.

While some attention was given to gender in the agricultural research cycle, and the collection of sex-disaggregated data, the courses did not engage participants in articulating the gender research questions in the context of their ongoing agricultural projects and corresponding research designs. This would require participant exposure to the relevant gender theories and application of the mixed methods design (qualitative and quantitative approaches). Such depth of coverage would require an extended period of training beyond the two to four days allocated for most of the case study trainings. The one exceptional case which covered 30 days (ASARECA) emphasized communication, advocacy, institutional transformation, and gender responsive monitoring and evaluation as opposed to gender theories and methods. While the former topics are useful, they would be more impactful when informed by credible empirical evidence that would make a convincing case of value added by gender. Other scholars (Escobar & Puskur, 2014; Siwal, 2005; UN Women Training Centre, 2016a, 2016b) have critiqued the efficacy of short gender training durations. Beg Raj Siwal (2005) indicates that while short gender training courses may be limited to a few hours with the aim of creating awareness; for detailed skills acquisition, a minimum of 7–10 days would be appropriate. Long-term changes in individual attitudes and institutional practices would be impossible in a few days of trainings which would only work to *scratch the surface* of gender equality debates (UN Women Training Centre, 2016a, 2016b).

Regarding skills transfer and application, participants formulated action plans which were expected to enable post-training application. However, there was

insufficient coherence of the gender action plans and the participant's ongoing projects in which they were supposed to be embedded. The training designs for most cases, except ASARECA that was split into a three phased structure, lacked planned follow up. Ideally, skills transfer and application should be intentional in the course design. There should be budgeting for the required activities; trainer terms of reference should be specified as well as the support necessary; and provision should be made for the scheduling and monitoring of action plans. Beyond training, the application hinges on a conducive institutional environment, which remains a key challenge in many SSA national agricultural research institutions. Several studies (Bates, Kauffeld, & Holton, 2007; Escobar & Puskur, 2014; Martin, 2010; Siwal, 2005; UN Women Training Centre, 2016b; Velada, Caetano, Michel, Lyons, & Kavanagh, 2007) have argued that if gender is not institutionalized through regulations, policies and practices, training efforts will not lead to transformation. For systems to change, a number of institutional incentives must come into play including management will and commitment, peer support, supportive policies and strategies, supportive resources, presence of an accountability and feedback system, and incentives and rewards for using acquired skills.

In terms of delivery methods, a blend of participatory and experiential methods was used across all the four case studies that enabled positive learning outcomes. Participants were exposed to relevant examples, case studies, practical exercises, group work, field work and presentations to enhance applied learning relevant for gender. According to the UN Women Training Centre (2016a, 2016b), the best delivery methods for a transformative gender training should be those that promote a mutual learning process between trainees and trainers; between the trainees themselves; balancing theory and practice using practical examples from participants' own experiences; and active agency by participants in the learning process. Important is also the use of face-to-face learning that builds solidarity and networks between participants (UN Women Training Centre, 2016a, 2016b).

Internalized Gender Identities: Space for Reflection and Questioning

The starting point for transformative training outcomes should be provision of space for reflection on internalized gender beliefs, biases and identities. This serves as a springboard for self-realization and questioning of deep-seated inequalities and norms. None of the trainings provided adequate space for such reflections. The gender trainings that go deep to create such consciousness, unearth a clear understanding and appreciation of the root causes of gender inequality, and how they can be tackled in the agricultural research and development context. A clear change of attitude among participants increases the chances for unlearning the previously learnt biases that perpetuate gender inequality, and increases their readiness to make adjustments to transfer the newly acquired knowledge and skills to their work places (Escobar & Puskur, 2014). Tackling both the root causes and consequences of gender inequality enables participants to better understand the relevance of gender in agriculture, and why they should integrate gender in their work.

Contextualizing Gender Training to Agricultural Research

Gender studies and agriculture are two distinct disciplines, each anchored in a body of knowledge governed by well-established scientific principles and processes. Even within the two disciplines, there are subdisciplines that may require specific attention during the training. The UN Women Training center (2016b) argues that gender trainers should have cultural, political and sectoral sensitivity. However, it is also important that trainers understand the diverse social science and agriculture disciplinary contexts to enable participants to open up and engage with the subject matter. Often times, questions such as, "What is valid data?" "Is gender research a science?" arise during gender trainings, resulting in debates. Such debates should be embedded in the training content and deliberately addressed to promote appreciation and understanding across disciplines, as well as mutual respect. This fosters receptiveness to gender responsive interdisciplinary research. The review indicated that emphasis was put on the cultural context and relevant gender analytical and participatory tools without paying due attention to the demands for operationalizing interdisciplinary research. For instance, in one of the cases (CGIAR, No. 10 in Table 1), participants were exposed to gender mainstreaming and analysis tools; participatory varietal selection; analysis of the household economy and wealth ranking; cassava based agro-enterprise development and value chain as well as analysis of decision-making, social capital and livelihoods. The training by FARA (No. 13 in Table 1) attempted to bring out the linkage between gender and agriculture in the SSA context. It also exposed participants to the varying roles by age and gender in agriculture as well as the gendered agricultural entitlements regarding land, skills, credit and markets at the household and community levels.

Bridging the Gender Training Gaps: GREAT Project Experiences

The premise of the scoping study outlined above was to provide a grounding for developing a course for agricultural researchers that incorporated lessons and filled the identified gaps in existing courses. A product of these conversations was the development of a new gender training course, GREAT – a Cornell University-Makerere University applied training program for agricultural researchers in sub-Saharan Africa. The GREAT course adopts an in-depth phased interdisciplinary training model for tailored skills development in gender-responsiveness along the design, implementation, evaluation and communication of agricultural research.

In the first five years (2016–2021), GREAT courses focused on gender responsive crop breeding topics. The overall learning objective "to strengthen ability to design, conduct and communicate gender-responsive research" is supported by the following specific objectives:

1. Ability to articulate the concepts and principles of gender responsive research.
2. Demonstrated positive practice and value for gender responsive research.
3. Ability to conceptualize, design and plan appropriate gender-responsive research.

4. Ability to collect, analyze, interpret and integrate qualitative and quantitative sex-disaggregated data.
5. Ability to communicate gender-responsive research to a range of audiences.

Responding to existing gaps and needs, GREAT tests a new training model: (1) training interdisciplinary teams of bio-physical and social scientists to work together; (2) using a phased approach to provide theoretical grounding, followed by practical field application, and ending with reflection and analysis; and (3) providing dedicated mentorship to training teams for mixed methods data collection, analysis and write up. Underpinning all of this is a firm focus on positionality and self-reflection. The following section reflects on independent monitoring, learning and evaluation (MLE) results (administered by independent partner ALINe) from testing the model on two cohorts of learners (2016–2018).

Interdisciplinary Teams

Agriculture is intrinsically complex. The yield a farmer can expect from his/her field will not solely depend on the genetics of the input seed, but also on the biophysical and social environment in which the seed is sown. Developing and disseminating agricultural inputs that respond to gender-based constraints and opportunities of a target population necessarily requires biophysical scientists to understand these issues. Often locked into disciplinary silos, biophysical agricultural scientists continue to produce "ideal" breeds and seeds that do not necessarily reflect or respond to the needs of marginalized groups. Questioning assumptions in one's discipline that can lead to such path dependency is not only critical to shifting the thinking and practice of research groups but also highly desirable when interpreting research from other disciplines (Moon & Blackman, 2014).

GREAT thus places emphasis on the interdisciplinary aspects in its courses. Interdisciplinarity helps solve problems beyond the scope of a single discipline or area of practice (National Academy of Sciences, 2005). Interdisciplinary research requires joint thinking, decision-making and action. The GREAT model has been based on participants interacting in interdisciplinary teams as biophysical scientists (plant or animal breeders, agronomists, pathologists) and social scientists (anthropologists, sociologists, economists). Sessions on mixed methods approaches are designed to strengthen skills for researchers from all backgrounds, and enable learners to fluidly communicate across qualitative and quantitative research disciplines. Both groups are better able to speak each other's language, and develop technologies that are more inclusive and attentive to everyone's needs, potentially resulting in better adoption rates and greater impact.

Early MLE results from the GREAT project show that participants interviewed about the interdisciplinary team approach reflected on the experience positively. The most common benefit noted by participants related to bridging the understanding between the different disciplines. In addition, team members noted that they were able to share experiences and knowledge with others as well as to draw these from others; and they said that working in teams enabled participants to support one another and share the workload. Further, they found that

interdisciplinary work can be a powerful catalyst for institutional transformation as depicted by the quote:

> […] our different orientations given our training complemented each other's strengths and weaknesses and we're able to sometimes discuss and find how to apply the material. But also, when we were observing the field team working, it was quite clear that we would focus on different things. (GREAT Participant Key Informant Interview)

Challenges associated with team-based participation included difficulties in working together in geographically distributed teams, unequal workloads and expense associated with a project's/institution's support of more than one person's attendance at a training.

Phased Delivery

Applied learning has become central to current teaching paradigms as educational institutions as well as governments and businesses have increasingly valued innovation and creativity. Applied learning puts education to practical use, through experiential, contextualized and personalized learning (Ovenden-Hope & Blandford, 2017). Following on principles of applied learning, GREAT combines theory and action to ensure that learning is practical, contextualized and applied. To do this, GREAT courses are split into three parts (see Fig. 1):

1. *Week 1*: Applied gender theory and mixed methods research.
2. *Field Work (over a span of 4–5 months)*: Field trainer-supported application, testing out mixed methods tools with a participant team's own projects.
3. *Week 2*: Mixed methods data analysis and writing, communications and institutional change.

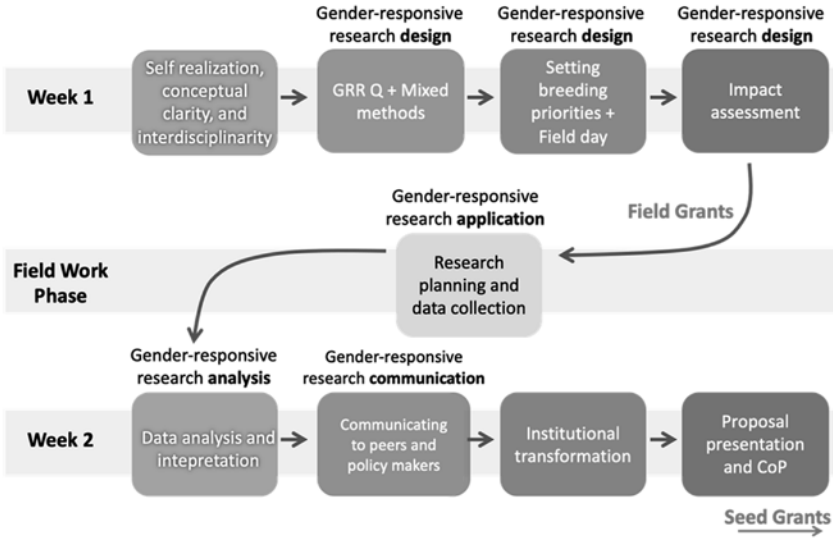

Fig. 1. GREAT Roadmap. GGR Q = Gender-responsive Research Questions (GREAT, 2018). *Sources*: Gender-responsive Researchers Equipped for Agricultural Transformation (GREAT) Project (2017, 2018a).

This phased approach enables learners first to question their own positions and biases; gain conceptual clarity on gender in agriculture terminology and issues; and develop foundational knowledge and capacity to design and implement mixed methods research within their ongoing projects. The fieldwork phase is supported by trainers, and learners are expected to collect quantitative and qualitative data following their research design. It is critical to note that at this phase data collection is expected to be limited and problematic as teams are still in the learning phase and for most teams this may be their first experience with gender research methods, especially qualitative research. Returning in Week 2 to reflect on the field experience, and learning how to analyze and interpret qualitative and quantitative data, learners complete their journey with short sessions on institutional engagement and communication tips. The phased structure ends with a competitive call for further research, for which teams submit proposals to qualify for a limited number of "seed grants."

A highlight of fieldwork stated by trainees was that it provided the opportunity for application in the community context (some trainees noted they had never been to the field to interact with communities prior to the course). Many noted that through the fieldwork, they gained a better understanding of how to practically apply the concepts they learned in their course instruction. Developing and adapting the tools they were exposed to in the first week also proved informative. While challenging and at times stressful, testing the tools in the field and iterative refinement provided a critical learning experience that cannot be obtained through classroom instruction. Furthermore, application in the field enabled trainees to leverage resources and value to projects by collecting gender data not previously budgeted for in the projects and identifying opportunities to scale up their research to multiple sites, testing new tools, revising guidelines and eventually publishing the results as quoted.

> I used to send people to go for the field. When I did myself, I realized how to do it, what can be the main challenges for the people who are doing the work …. I understand very well the problems they are facing, and I know the reality at the field level, and from this training of this week (W2), I learnt how, after we have finished, we have to go back and give feedback to the farmers. That one will help us … change the system. (GREAT participant Key Informant Interview)

> There were things we identified around the time of preparing the tools. And then we prepared the tools and trained the enumerators and we thought that we were ready. But observing them in the field for a few days, we realized that we needed to retrain them again, right in the field and do a mock interview with them and just us in a discussion and show them what we had learnt earlier …. So, in the field, we had to resolve quite a few things. But even after coming from the field, we have looked at the data set and we see that we will need to resolve a few more. To be able to get a very, very good tool, to go back to the field with. (GREAT Participant Key Informant Interview)

Fieldwork application provided a challenge to many teams. Time was a major constraining factor, both in terms of having available time to carry out fieldwork, and timing clashes with harvesting/planting season for some crops. Participants expressed some frustration in their level of preparation and exposure to different tools and ultimately the quality of data they obtained. Some teams sought to apply tools without proper refinement to their specific context while others sought to prematurely apply more complex methodologies.

Mentoring

Mentors play several types of roles for researchers: psychosocial and career support, as well as serving as role models (Mukhebi, Otunga, Mentz, & Wangalachi, 2017). In contrast, academic mentoring focuses on goal oriented technical skills building, also defined as instrumental mentoring (Hamilton & Hamilton, 2005). The GREAT approach to mentoring centers around assigning "field trainers" to each research team, to guide research teams in conceptualization, design, development of data collection tools, research implementation, and publication. A team of dedicated and experienced field trainers provide technical backstopping with emphasis on sharpening the team's gender research questions; developing quality qualitative and quantitative tools; ensuring tools are well aligned to gender research questions; guiding the collection of quality mixed methods data; conducting a gender analysis, and integrating mixed methods findings. Field trainers share literature and other resources with their teams to inform conceptualization and implementation of the gender questions and to oversee team learning. This is aimed at enhancing the capacity of the GREAT participants to apply the gender research knowledge and skills acquired during face-to-face training. The GREAT research teams are expected to drive the process by contacting their field trainers for the required support. This approach is expected to empower participants, as the primary beneficiaries, to own and appreciate the process.

Participants reported high levels of relevant technical competence from field trainers, whom they saw as an important part of bridging theory and action as they finalized research tools. Interestingly, some participants also mentioned that field trainers helped to mediate and facilitate dialogue over divergent perspectives on research and data collection approaches between team members.

> Our mentor has a high technical knowledge and experience on gender studies and fieldwork. Our team has solicited her for the design of research question and tools and then for the fieldwork design and each time, she answered very rapidly. (GREAT Participant Key Informant Interview)

> My mentor helped me a lot …. When we started thinking about the methodology, he invited me to go DRC, and he used money from his project just to support me to come from Burundi to DRC just to discuss about our research methodology and research design meaning that he spared, he makes his time to be helpful to me. (GREAT Participant Key Informant Interview)

Challenges included the availability of the assigned trainer and communication and logistical issues that hindered effective communication. There was also variability in the level of engagement and commitment among the mentors. A major limitation was that field trainers were by and large geographically removed from the teams, and this inability of most mentors to be physically present with the team during the fieldwork was consistently referenced as a limitation. It was also stated that there were excessive demands on the trainees, and that some teams had unrealistic expectations from the mentors – "they seem to take the mentor as a supervisor."

A Focus on Positionality and Personal Reflections

Over the first few iterations of the GREAT course, it was clear that one of the most important sessions would be on gender identities and positionality. Furthermore,

this session would need to be delivered very early on, during the first day of the course to challenge participants to question their assumptions, positions and biases, preparing them for deeper learning. Starting the course with personal reflection and "a-hah" moments led participants to become curious and open learners, creating space for "rewiring" their practice and viewpoints in their work.

The GREAT session on "Personal Reflections on Gender" starts with asking participants to reflect on questions around who they are and how they see the world. The session is structured around a participatory exercise by individuals reflecting on what is expected of them as men and women, and where these expectations originated. This first reflection is presented under the premise that gender is a key organizing system/structure that defines, positions, determines the relationships, responsibilities, entitlements and actions of women and men in different contexts. Learners then reflect on how gender in turn influences who they are, their beliefs and perceptions, expectations and actions, and how gender relations have been internalized and normalized in their lives. These internal reflections are then presented in groups and plenary discussions to tease out stereotypes and problematic assumptions. A second level of reflection is then encouraged around how gendered beliefs and perceptions are manifested in participants' workplaces and research teams, and impacts of these on individuals and research outputs. Participants focus next on the changing nature of gender identities through socialization, and how gender influences self-identity, beliefs, perceptions and actions/behavior. A feminist theoretical framework underpins these discussions by exploring how beliefs and perceptions are attributed to the dominant expressions, accepted with authority and operationalized through all institutions, making them consensual and central to men and women's lives. These reflection sessions then culminate in a discussion on solutions or strategies to be adopted to address the gender perceptions and beliefs at workplace and research process a measure to reduce gender inequality and gender-blind research.

All respondents who attended the GREAT course noted that it had changed their attitudes toward gender responsive research with 87% of these reporting significant attitudinal change (Fig. 2).

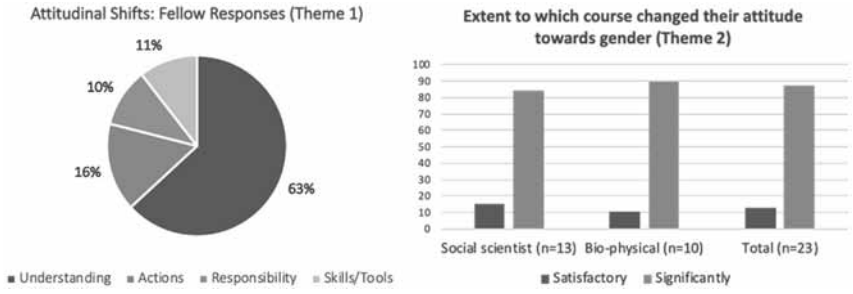

Fig. 2. Attitudinal Shifts from Two GREAT Cohorts; Theme 1 (Aline Impact, 2017), Left and Theme 2 (Aline Impact, 2018), Right. *Source*: GREAT (2018b).

Interestingly attitudinal shifts occurred across disciplines. Social scientists join the course (most of which are agricultural economists) were equally experiencing significant learning.

CONCLUSIONS

Gender trainings for non-gender agricultural research practitioners tended to emphasize gender awareness without a deliberate focus on creating deeper reflections and consciousness about gender identities and the root causes of gender inequality. Without such a focus the transformative potential of gender awareness is undermined. Because gender training was limited to the existing frameworks, and gender analysis was not contextualized within agricultural inquiry, the capacity of researchers to conceptualize and conduct gender responsive interdisciplinary research was limited. The emphasis on "generic" gender analysis tools that are not adapted to the complex realities of agricultural projects has led to churning out gender practitioners unable to apply skills in real life research projects. We therefore recommend that gender trainings emphasize capacity development in design and implementation of interdisciplinary agricultural research projects. This can be achieved through extended training with dedicated technical backstopping during and after the training. The trainers should possess a diversity of competencies, mainly in feminist theory and pedagogy, mixed social research methods and gender responsive agricultural research.

REFERENCES

Ahikire, J. (2007). Gender training and the politics of mainstreaming in post-Beijing Uganda, In M. Mukhopadhyay, and W. Franz (Eds.), *Revisiting gender training – —The making and remaking of gender knowledge: A global sourcebook (*pp. 39–46, *Gender, Society and Development Series)*. Oxford: Oxfam Publishing.

Anderson, S., Allen, P., Peckham, S., & Goodwin, N. (2008). Asking the right questions: Scoping studies in the commissioning of research on the organization and delivery of health services. *Health Research Policy System*, *6*(7). http://dx.doi.org/10.1186/1478-4505-6-7

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a Methodological framework. *International Journal of Social Research Methodology*, *8*, 19–32. doi:10.1080/1364557032000119616

Bates, R. A., Kauffeld, S., & Holton E. F., III. (2007). Examining the factor structure and predictive ability of the German-version of the learning transfer systems inventory. *Journal of European Industrial Training*, *31*(3), 195–211.

Escobar, S. S., & Puskur, R. (2014). *Gender capacity development and organizational culture change in the CGIAR Research Program on aquatic agricultural systems: a conceptual framework*. Working Paper No. AAS-2014-45. CGIAR Research Program on Aquatic Agricultural Systems, Penang, Malaysia.

Food and Agriculture Organization of the United Nations. (2011). *The state of food and agriculture; Women in agriculture: Closing the gender gap for development*, Rome: FAO; Retrieved from www.fao.org/docrep/013/i2050e/i2050e00.htm

Gates, F. M. (2014). *Putting women and girls at the centre of development*. Seattle, WA: The Gates Foundation.

Gender-responsive Researchers Equipped for Agricultural Transformation [GREAT] Project. (2017). Year 1 Monitoring Learning and Evaluation Report. Prepared by ALINE Impact. Retrieved from https://drive.google.com/open?id=1kpB6YmiwH-_h4os5ukloNJ_y7y7qTHZ2; www.alineimpact.com

Gender-responsive Researchers Equipped for Agricultural Transformation [GREAT] Project. (2018a). Year 2 Monitoring Learning and Evaluation Report. Prepared by ALINE Impact. Retrieved from https://drive.google.com/open?id=1kpB6YmiwH-_h4os5ukloNJ_y7y7qTHZ2; www.alineimpact.com.

Gender-responsive Researchers Equipped for Agricultural Transformation (GREAT), "GREAT Gender-Responsive Legume Breeding Course." Course Biobook. (2018b). Retrieved from https://www.greatagriculture.org/content/courses/course-3-legumes

Hamilton, M. A., & Hamilton, S. F. (2005). Work and service-learning. In D. L. DuBois & M. J. Karcher (Eds.), *Handbook of youth mentoring* (pp. 348–363). Thousand Oaks, CA: Sage.

International Food Policy Research Institute (IFPRI) and International Maize and wheat Improvement Centre (CIMMYT). (2013). Gender Integrations and Analytical Tool in Agricultural Research Training. Retrieved from http://aciar.gov.au/aifsc/sites/default/files/images/gender-traing-report.pdf

International Livestock Research Institute (ILRI). (2014). Promoting equal access to resources and opportunities in agriculture for men and women. Retrieved from http://livelihoods-gender.ilri.org/2014/03/21/ilri-gender-scientists-facilitate-a-training-workshop-on-gender-in-agricultural-research-in-mozambique/. Accessed on December 5, 2015.

Kabeer, N. (1994). *Reversed realities: Gender hierarchies in development thought*. London: Verso.

Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal. *Gender and Development*, *13*(1), 13–24.

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. *Implementation Science*, *5*(1), 69. doi:10.1186/1748-5908-5-69

Lorber, J. (2005). *Breaking the bowels: Degendering and feminist change*. New York, NY: W.W. Norton & Company.

Manyire, H., & Apekey, A. D. (2013). *Mainstreaming gender equality in African agricultural research and development: A study of constraints and opportunities*. Forum for Agricultural Research in Africa (FARA), Accra, Ghana.

March, C., Smyth, I., & Mukhopadhyay, M. (1999). *A guide to gender-analysis frameworks*. Oxford: Oxfam.

Martin, H. J. (2010). Workplace climate and peer support as determinants of training transfer. *Human Resource Development Quarterly*, *21*(1), 87–104.

Meinzen-Dick, R., Quisumbing, A., Behrman, J., Biermayr-Jenzano, P., Wilde, V., Noordeloos, M., …, Beintema, N. (2011). *Engendering agricultural research, development and extension*. Washington, DC: International Food Policy Research Institute (IFPRI).

Moon, K., & Blackman, D. (2014). A guide to understanding social science research for natural scientists. *Conservation Biology*, *28*(5), 1167–1177.

Mukhebi, D., Otunga, E., Mentz, M., & Wangalachi, A. (2017). Strengthening mentoring partnerships for African women scientists in the agricultural research and development system in sub-Saharan Africa. *Journal of Gender, Agriculture and Food Security*, *2*(1), 77–105.

Mukhopadhyay, M., & Franz, W. (2007). *Revisiting gender training – The making and remaking of gender knowledge: A global sourcebook (Gender, society and development series)*. Oxford: Oxfam Publishing.

National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. (2005). *Facilitating interdisciplinary research*. Washington, DC: The National Academies Press. https://doi.org/10.17226/11153

Njuki, J. (2016). Practical Notes: Critical elements for integrating gender in agricultural research and development projects and programs. *Journal of Gender, Agriculture and Food Security*, *1*(3), 104–108.

Okali, C. (2012). *Gender analysis: Engaging with rural development and agricultural policy processes*. FAC Working Paper 26. Future Agricultures Consortium, Brighton.

Ovenden-Hope, T., & Blandford, S. (2017). *Understanding applied learning: Developing effective practice to support all learners*. London: Taylor & Francis.

Rubin, D. (2016). *Qualitative methods for gender research in agriculture development*. IFPRI Discussion Paper. IFPRI, Washington, DC.

Siwal, B. R. (2005). *Basic framework and strategy for gender training*. New Delhi, India: NIPCCD. Retrieved from https://www.semanticscholar.org/paper/BASIC-FRAMEWORK-AND-STRATEGY-FOR-GENDER-TRAINING-Siwal-DIRECTOR/17d0ab7e7d272e20f5c73f6b70659368d6bdfc6b

Subrahmanian, R. (2007). *Feminisms in development: Contradictions, contestations and challenges* (pp. 112–121). London: Zed Books.

UN Women. (2015). *Virtual dialogue: Resistances in training for gender equality*. Santo Domingo: UN Women.

UN Women, UNDP and World Bank. (2015). The cost of the in agricultural productivity in Malawi, Tanzania and Uganda.

UN Women Training Centre. (2016a). *Typology on training for gender equality*. Santo Domingo: UN Women Training Centre.

UN Women Training Centre. (2016b). *Compendium of good practices in training for gender equality*. Santo Domingo: UN Women Training Centre.

Velada, R., Caetano, A., Michel, J. W., Lyons, B. D., & Kavanagh, M. (2007). The effects of training design, individual characteristics and work environment on transfer of training. *International Journal of Training and Development*, *11*, 282–294.